

# Work Order ID 96133

January-23-13 9:48:06 AM

**\*96133\***

Page 1

Item ID: D4151-041 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Basket Fwd Hardpoint Assembly, Lower  
 Start Date: 1/21/13 Start Qty: 4.00 **\*4\*** Cust Item ID:  
 Required Date: 2/05/13 Req'd Qty: 4.00 **\*4\*** Customer:  
 Reference:

Approvals: Process Plan: MLJ Date: 13-01-25 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_  
 Run Start **\*NR1\***  
 Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>								
D4151	C								
100		0.00							
<b>*100*</b>									
Small Fab	Memo	0.00							
Small Fab	I- Assemble as per dwg								
110	QC5- Inspect part completeness to step on W/O	0.00							
<b>*110*</b>									
QC	Memo	0.00							
Quality Control									
120	Identify as per dwg & Stock Location: _____	0.00							
<b>*120*</b>									
Packaging	Memo	0.00							
Packaging									

4x 13/02/07

4

13/2/8 4

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other

# Work Order ID 96133

**\*96133\***

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Item ID: D4151-041      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
 Revision ID:      Stop **\*NS2\***  
 Item Name: Basket Fwd Hardpoint Assembly, Lower  
 Start Date: 1/21/13      Start Qty: 4.00      **\*4\***      Cust Item ID:  
 Required Date: 2/05/13      Req'd Qty: 4.00      **\*4\***      Customer:  
 Reference:

Approvals:      Process Plan:      Date:      Tooling:      Date:      Run Start **\*NR1\***  
                  QC:      Date:      SPC (Y/N):      Date:      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC21- Final Inspection - Work Order Release	0.00							
<b>*130*</b>									
QC	Memo	0.00							
Quality Control									

13/2/11 *[Signature]*  
 MB-028

# WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NCR: Yes / No

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

## FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
--	---	---

☐ Ovalized  
☐ Over/Under tolerance  
☐ Part Incorrect  
☐ Part Lost/Missing  
☐ Part Moved  
☐ Positioned Wrong  
☐ Power Loss/Surge

☐ Pressure/Forced  
☐ Temperature/Cure  
☐ Weld  
☐ Wrong Stock Pulled  
☐ Other

# Picklist Print

January-24-13 11:36:45 AM

Page 1  
2

Work Order ID: 96133

\*96133\*

Parent Item: D4151-041

\*D4151-041\*

Parent Item Name: Basket Fwd Hardpoint Assembly, Lower

Start Date: 1/21/13

Required Date: 2/05/13

Start Qty: 4.00

Required Qty: 4.00

## Comments:

IPP Rev:A 10.06.24 new issue DD verf:EC  
IPP Rev:B 10.07.22 as per revB DD verf:JLM  
11.01.21 as per dwg revC DD verf:JLM

IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4151-1		Manufactured	No			100	Each	12.0000	2	8			
<b>*D4151-1*</b> Lower Hardpoint Plate													

\*\*

EC3/02/07

### Location

### Loc Qty

### Loc Code

ST145

12

94203

12

D4151-5		Manufactured	No			100	Each	7.0000	1	4			
<b>*D4151-5*</b> Fwd Basket Instl Stud													

\*\*

EC3/02/07

### Location

### Loc Qty

### Loc Code

ST145

7

93819

7

AN4C13A		Purchased	No			100	Each	176.0000	2	8			
<b>*AN4C13A*</b> BOLT													

\*\*

EC3/02/07

### Location

### Loc Qty

### Loc Code

ST356

116

123900

116

ST516

60

124215

60

8

# Picklist Print

January-24-13 11:36:45 AM

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Work Order ID: 96133

Parent Item: D4151-041

Parent Item Name: Basket Fwd Hardpoint Assembly, Lower

\*96133\*

\*D4151-041\*

Start Date: 1/21/13

Required Date: 2/05/13

Start Qty: 4.00

Required Qty: 4.00

MS21043-4

Purchased

No

100

Each

1,509.000

2

8

\*MS21043-4\*

Nut

\*\*

*EP 13/02/07*

## Location

## Loc Qty

## Loc Code

FG

36

104603

36

GA

148

121652

148

ST315

1325

121162

25

123021

500

123525

200

123900

600

8

NAS1149C0432R

Purchased

No

100

Each

3,084.000

4

16

\*NAS1149C0432R\*

Washer

\*\*

*EP 13/02/07*

## Location

## Loc Qty

## Loc Code

GA

65

121255

65

ST292

3019

119124

19

122441

3000

16

ITEM	QTY -041	QTY -043	P/N	DESCRIPTION
	X		D4151-041	BASKET FWD HARDPOINT ASSY (LOWER)
		X	D4151-043	BASKET FWD HARDPOINT ASSY (UPPER)
1	2		D4151-1	LOWER HARDPOINT PLATE
2		2	D4151-3	UPPER HARDPOINT PLATE
3	1		D4151-5	FWD BASKET INSTL STUD (LOWER)
4		1	D4151-7	FWD EYEBOLT RECEIVER (UPPER)
5	2	2	AN4C13A	BOLT
6	2	2	MS21043-4	NUT
7	4	4	NAS1149C0432R	WASHER

**D4151-043 BASKET FWD HARDPOINT ASSY (UPPER)**

**D4151-041 BASKET FWD HARDPOINT ASSY (LOWER)**

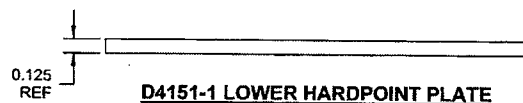
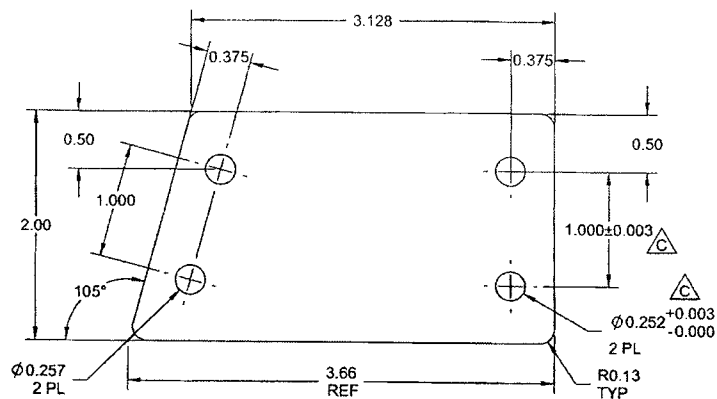
**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4151-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT:
  - D4151-041 = 0.88 lbs
  - D4151-043 = 1.17 lbs

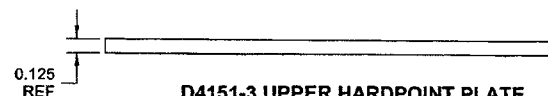
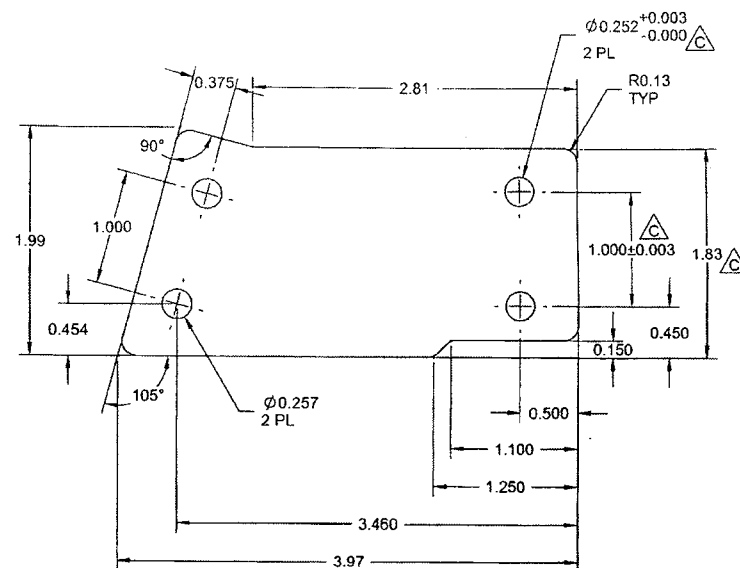
C	AN4 HARDWARE WAS AN3 (B6-1, C3-1 & D3-1); Ø0.252 WAS Ø0.191 (C5-2, D1-2); TIGHTENED TOL ON 1.000 DIM (C5-2, D1-2, C7-3, C3-3); Ø0.250 WAS Ø0.191 (C6-3, B4-3); 1.63 WAS 1.75 (C1-2), 2.84 WAS 2.78 (B3-3) AND 1.88 WAS 1.80 (C1-3) TO PRESERVE 1.50. REASON: SEE D407-787 DESIGN JOURNAL.	MB	10.12.14
B	ADDED D4151-5/7 (SHT 3); D4151-5 WAS D3911-1 (ZN B6-1 & D3-1); D4151-7 WAS D3911-3 (ZN C4-1 & D3-1) ITEMS #5, 6 & 7 REPLACE MS20615-4M20 (ZN C3-1, D3-1 & B6-1); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN C5-2); Ø0.191 2 PL REPLACES Ø0.129 4 PL (ZN D1-2). REASON: SEE TR-D350-807-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED	SC		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.12.14		
<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA DRAWING NO. <b>D4151</b> REV. C SHEET 1 OF 3 TITLE <b>BASKET FWD HARDPOINT</b> SCALE NTS COPYRIGHT © 2010 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>			

96133 MJS

13-01-25 RELEASED  
2011-01-18



**D4151-1 LOWER HARDPOINT PLATE**



**D4151-3 UPPER HARDPOINT PLATE**

**RELEASED**  
2011-01-18  
MD

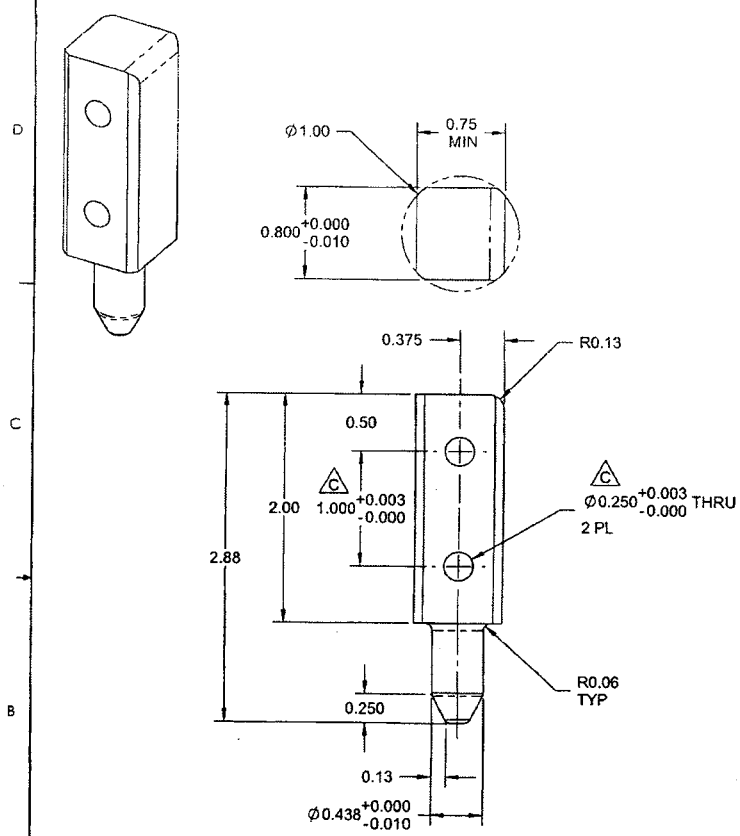
**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL SHEET ANNEALED 2B, 0.125 THK  
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240  
REF. DART SPEC. M304S11GA OR M303S11GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY AT ASSEMBLY
- 7) WEIGHT:
  - D4151-1 = 0.24 lbs
  - D4151-3 = 0.23 lbs

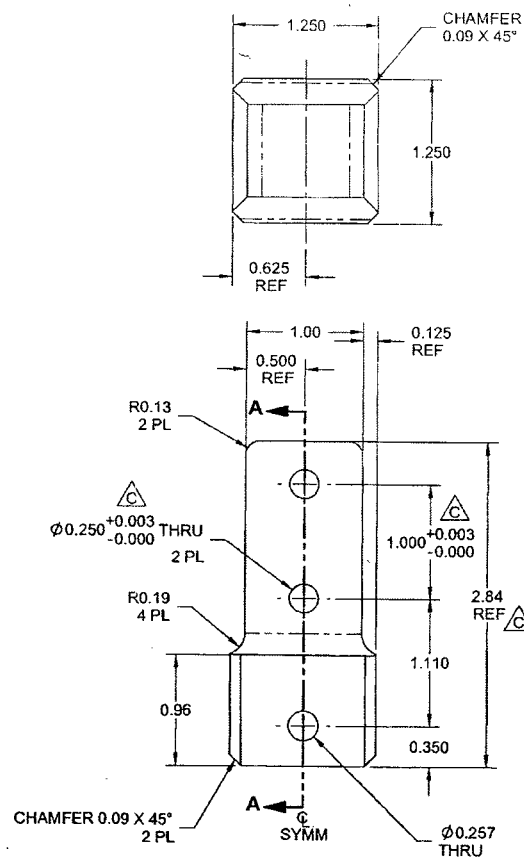
DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	SC	DRAWING NO. <b>D4151</b>	REV. C
MFG. APPR.			SHEET 2 OF 3
APPROVED	AM	TITLE	SCALE
DE APPR.		<b>BASKET FWD HARDPOINT</b>	NTS
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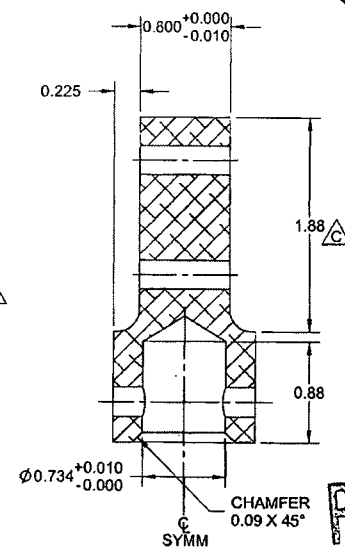
96133



**D4151-5 FWD BASKET INSTL STUD (LOWER)**



**D4151-7 FWD EYEBOLT RECEIVER (UPPER)**



**SECTION A-A**

- NOTES:**
- 1) MATERIAL -5: 303/304/316 STAINLESS STEEL ROUND BAR, PER ASTM A276 OR ASTM A582 PER DART SPEC M303R OR M304R  
-7: 303/304/316 STAINLESS STEEL BAR, PER ASTM A276 OR ASTM A582 PER DART SPEC M303B OR M304B
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: IDENTIFY AT ASSEMBLY
  - 7) WEIGHT -5: 0.36 lbs  
-7: 0.70 lbs

DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. <b>D4151</b>	REV. C
MFG. APPR.		TITLE	SHEET 3 OF 3
APPROVED		<b>BASKET FWD HARDPOINT</b>	SCALE
DE APPR.			NTS
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**RELEASED**  
2011-01-10  
**RELEASED**